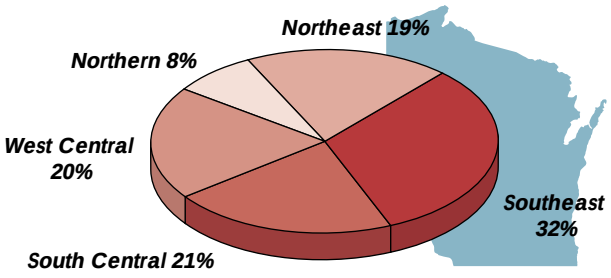
Wisconsin Spills

Wisconsin Department of Natural Resources — August 1998

Hazardous substances play important roles in our everyday quality of life - from the natural gas that heats our home, to the fertilizer that keeps food costs low. When a discharge or spill of a hazardous substance occurs, there is a potential danger to the safety and welfare of the public and the environment. In most instances the responsible party must report the spill immediately to the Department of Natural Resources and take actions necessary to ensure that a quick and effective clean up takes place. Anyone may report hazardous substance spills using the ***24-hour toll-free hotline 1-800-943-0003***. For more information on the spills program, visit the DNR Remediation and Redevelopment website at www.dnr.state.wi.us/org/aw/rr/.

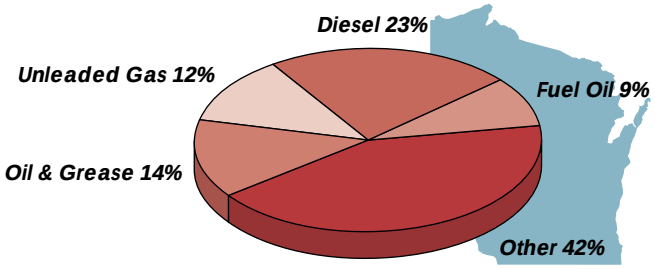
Location

In Wisconsin, there are approximately 1200 spills reported annually. The majority of these occur where the population is the greatest. While the Southeast Region is the smallest region of the state, 39% of the population resides there. It's therefore not suprising that nearly a third of all of the spills in Wisconsin occur there.



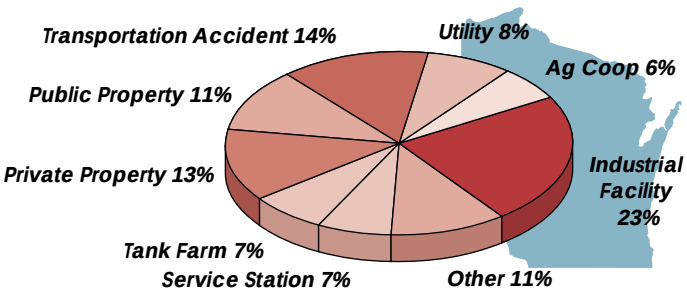
Substance

Most spills in Wisconsin are small. While quantity can be important, the substance spilled and where it is spilled are generally more critical factors. The most common substances spilled are petroleum products. Diesel fuel tops the list at 23%. Most other substances represent a small fraction of the total spills in Wisconsin. However, these minor categories, such as fertilizer, paint and ammonia, make up over 40% of the state's total spills.



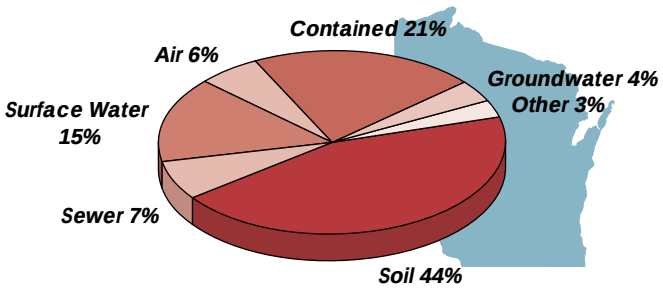
Source

Most substances are released at industrial facilities, including paper mills and chemical plants. Another common spill source involves transportation accidents which either result in fuel spills or load spills. Commonly, transportation related spills involve diesel fuel releases from semi trucks.



Impact

What the substance impacts is also a factor in the seriousness of the spill. Nearly 45% of all spills in WI impact the soil. These spills are usually cleaned up by excavating the contaminated soil and refilling with clean soil. When a spill impacts surface water or groundwater, it presents a greater risk. The recent diesel spill at Honey Creek in Milwaukee County illustrates such a situation. (see reverse)



The Honey Creek Case Study

Day 1

On October 1st, 1997 a semi-tanker transporting 7,400 gallons of diesel fuel was involved in a traffic accident while traveling on a major freeway. The tanker rolled on its side, ruptured its tank, and slid sideways down the roadway, spilling the diesel fuel. Moments after coming to a stop, the tank exploded and caught on fire. Amazingly, no one was killed in the initial traffic accident or subsequent fire.

Some diesel fuel burned in the explosion and fire, but most of the product entered the storm sewer system and flowed into Honey Creek. DNR emergency response personnel responding to the incident contracted Superior Special Services to contain the diesel fuel spill and conduct cleanup operations.

Booms were deployed on Honey Creek at several locations to contain the several-inch thick bright green plume of diesel fuel which floated on the surface of the narrow creek. The initial surge of fire suppression foam and water pushed the plume approximately a mile downstream from the initial accident site. About one quarter mile of natural stream channel was affected by the spill. The booms prevented the product from flowing farther downstream.

After boom placement, Superior mobilized collection equipment and began product recovery operations within three hours of the accident. Collection points were established and vacuum equipment was used to skim diesel fuel off the water surface. This pumping action removed 10,000 gallons of product and contaminated water from the creek by the end of the first day.

Day 2

The first day's pumping cleared the water enough so that the next morning observations on the impact to the aquatic life could be made. Aquatic biologists and Water Resources representatives from the DNR determined that macroinvertebrates were severely effected by the oxygen depletion and petroleum chemicals dissolved in the water. A qualitative fish survey found dead and stressed white head minnows, white suckers, and bullheads. Because Honey Creek is a "feeder creek" for game fish which live in the Menomonee River, the long term effects on fish which escaped downstream of the spill and on the food supply to game fish is being monitored.

Product collection and cleanup continued as actively the second day as the first. "Hard skirted boom" and petroleum sorbent pads were deployed where Honey Creek runs into the Menomonee River to contain as much of the petroleum sheen as possible. Compressed air was used to push pockets of diesel fuel out of rocks and crevices to where it could be collected. Sorbent pads were used to wipe down large rocks covered with petroleum. Large accumulations of leaves contaminated by the diesel fuel were removed from the creek and drummed for disposal. An additional 15,000 gallons of product and contaminated water were removed from the creek during the second day of cleanup.

Day 3 and Beyond

Flushing and pumping of the stream continued on the third day. Fire hydrants were opened upstream of the spill to flush residual small pockets of petroleum into collection points. Superior removed approximately 7,000 gallons of product and contaminated water the third day; roughly 32,000 gallons of contaminated liquids were recovered during the cleanup.

Sorbent booms were maintained at several locations for two weeks after the spill. The residual petroleum and contaminated leaves and debris collected in these booms were drummed for disposal. Maintenance of the absorbent booms continued until no more contaminated surface debris accumulated in the booms and collection points. Although the cleanup had been aggressive and thorough, residual contamination remained present in shoreline sediments and debris. The DNR continues to monitor the effect of the spill on the environment. Results from a DNR study on water and wildlife conducted in the spring of 1996 on Honey Creek and the Menomonee River is providing valuable comparative data for determining the extent of damage done by the spill.

The cleanup and disposal of contaminated media cost approximately $43,000. The Oil Spill Liability Trust Fund administered by the United States Coast Guard may reimburse the State of Wisconsin for the cleanup costs.

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